

Sub E1

1. (Amended) A sequence of synthetic or natural retroelements, which comprises an insertion sequence incorporated in a region that can be transferred into a target cell and integrated into a recombinant provirus when said target cell is infected by a retrovirus comprising said sequence of retroelements, said insertion sequence comprises a nucleotide sequence of interest which can be integrated into the genome of the target cell and a recognition sequence, said retroelements comprise a 3' and/or 5' LTR region and said insertion sequence is incorporated into said 3' LTR and/or 5' LTR region.

Sub E2

25. (Amended) A nucleic acid molecule comprising

retroelements that comprise a recombinant provirus when a target cell is infected by a retrovirus containing said retroelements; said retroelements comprise

a 3' and/or 5' LTR region;

an insertion sequence located in the 3' and/or the 5' LTR region;

said insertion sequence comprises

a nucleotide sequence of interest, which can be expressed in the target cell and which can be transferred with said retroelements into the target cell and integrated into the recombinant provirus; and

a recognition site for the elimination of proviral sequences in the recombinant provirus, which are not necessary for expression of the nucleotide

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D2 SUB E2
sequence of interest in the target cell after integration of the recombinant provirus into the target cell.

D3 SUB E3
28. (Amended) The nucleic acid molecule as claimed in Claim 25, wherein the retroelements comprise a U3 region of a 3' LTR, a U5 region of a 5' LTR, and an R region, and the sequence of interest and the recognition sequence are incorporated into one of said regions.

D4 SUB E4
39. (Amended) The nucleic acid molecule as claimed in Claim 25, which is contained in a plasmid deposited under C.N.C.M. Accession No. I-1599.

D5 SUB E5
41. (New) The sequence of retroelements as claimed in Claim 1, wherein the recognition sequence is a single recognition sequence that can be recognized by a recombinase.

42. (New) The sequence of retroelements as claimed in Claim 1, wherein the sequence is comprised of retroviral DNA.

43. (New) The sequence of retroelements as claimed in Claim 1, wherein the retroelements comprise a U3 region of a 3' LTR, a U5 region of a 5' LTR, and an R region, and the sequence of interest and the recognition sequence are incorporated into one of said regions.

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44. (New) The sequence of retroelements as claimed in claim 41, wherein said retroelements comprise U3 of 3' LTR and/or U5 of 5' LTR and the insertion sequence is incorporated into U3 and/or U5.

45. (New) The nucleic acid molecule as claimed in claim 28, wherein said retroelements comprise U3 of 3' LTR and/or U5 of 5' LTR and the sequence of interest and the recognition sequence are incorporated into U3 and/or U5.

REMARKS

I. Status of the Claims

Claims 1 and 25-40 were pending. With the entry of this amendment, Claims 41-45 are added. Claim 41 is supported at page 2, lines 36-8, page 3, lines 13-15, page 7, lines 26-7, and page 12, lines 1-81 of the specification. Claim 42 is supported by page 1, lines 6-7, page 2, lines 19-20, and page 12, line 10 of the specification. Claims 43-45 are supported at page 1, lines 19-21, page 2, lines 31-37, page 4, lines 24-26, pages 7-8, lines 34-39, 1-24, and page 12, lines 10-19 of the specification. Claims 1, 25, 28, and 39 are amended. Claims 26 and 27 are deleted. With the entry of this amendment, Claims 1, 25, and 28-45 are pending.

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